

**AUTOMATIC OPTICAL INSPECTION OF COMPONENTS USING A
SHADOW PROJECTION THRESHOLD
FOR A DATA STORAGE DEVICE**

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Abstract of the Disclosure

A method and apparatus for determining compliance of a component of a printed circuit board assembly that includes determining the presence or non-presence of a component on a printed circuit board assembly (PCBA), by comparing electronically a reflected light intensity transition region with a 10 predetermined reflected light intensity transition region threshold, using a computer controlled vision system operating under component compliance software. Wherein the reflected light intensity transition region is an intensity of light reflected off a meniscus of a solder joint formed between the component and a solder pad referred to as a shadow projection. The shadow projection is 15 characterized as adhering or not adhering to the threshold, and determination of component compliance is based on the characterization of the shadow projection. If the component is found compliant, the PCBA is identified as compliant. If the component is found non-compliant, the PCBA is identified as non-compliant.

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